

CLAIM

Pub 1. An offline-online points system, comprising:  
2 a main server for providing a user with an interface to submit a code, wherein the user  
3 obtained the code offline and the code is associated with N points; and  
4 a code server for maintaining valid codes and verifying that the code that the user  
5 submitted is a valid code.

1 2. The system of claim 1, further comprising:  
2 a user database that maintains an account of the user, wherein the account balance is M  
3 points prior to the user's submission of the code.

1 3. The system of claim 2, wherein the code server updates the account balance to M+N  
2 points after the user submits the code and if the code server verifies that the code is valid.

1 4. The system of claim 2, wherein the main server updates the account balance to M+N  
2 points after the user submits the code if the code server verifies that the code is valid.

1 5. The system of claim 2 wherein the code is C letters in length from an alphabet of L  
2 letters.

1 6. The system of claim 5 wherein C is 10.

1 7. The system of claim 6 wherein L is 29.

1 8. The system of claim 6 wherein L is 36.

1 9. A method of generating an encrypted code in base L, comprising steps:  
2 providing an n-bit raw number;  
3 applying a one-way hash function on the n-bit raw number with a first secret key to  
4 generate a first string;



combining the m-bit validation number and the n-bit raw number to generate a second string;  
 applying a DES3 encryption algorithm to the second string with a second secret key to generate a third string; and  
 converting the third string to base L to generate the code with the encrypted information.

18. The method of claim 17, wherein the step of verifying includes:  
 converting the code in base L to generate a first test code in base 2;  
 decrypting the first test code with the second secret key using a reverse DES3 encryption algorithm to generate a second test code;  
 applying the one-way hash algorithm to the second test code to generate a third test code; and  
 comparing a designated m-bit portion of the second test code to a designated m-bit portion of the third test code, and if the comparison is positive, declaring the code to be valid.

19. The method of claim 18, wherein the m-bit validation number is the m most significant bit (MSB) of the first string in the generating step and the designated m-bit portion is the most significant bit portion of the second test code and third test code in the comparing step.

20. A method for awarding incentive points to a user, comprising steps:  
 generating a code with encrypted information;  
 providing the code to an entity for printing on a hard good;  
 receiving the code submitted by the user; and  
 verifying the validity of the code by processing the encrypted information.

21. The method of claim 20, wherein the step of generating includes steps:  
 providing an n-bit raw number;  
 applying a one-way hash function on the n-bit raw number with a first secret key to generate a first string;  
 designating an m-bit portion of the first string as an m-bit validation number;

6 combining the m-bit validation number and the n-bit raw number to generate a second  
 7 string;  
 8 applying a DES3 encryption algorithm to the second string with a second secret key to  
 9 generate a third string; and  
 10 converting the third string to base L to generate the code with the encrypted  
 11 information.

1 22. The method of claim 21, wherein the step of verifying includes:  
 2 converting the code in base L to generate a first test code in base 2;  
 3 decrypting the first test code with the second secret key using a reverse DES3  
 4 encryption algorithm to generate a second test code;  
 5 applying the one-way hash algorithm to the second test code to generate a third test  
 6 code; and  
 7 comparing a designated m-bit portion of the second test code to a designated m-bit  
 8 portion of the third test code, and if the comparison is positive, declaring the code to be valid.

1 23. The method of claim 22, wherein the m-bit validation number is the m most significant  
 2 bit (MSB) of the first string in the generating step and the designated m-bit portion is the most  
 3 significant bit portion of the second test code and third test code in the comparing step.

*add a37*